

DEFENSE INFORMATION INFRASTRUCTURE (DII)
COMMON OPERATING ENVIRONMENT (COE)

CONSOLIDATED INSTALLATION GUIDE
FOR THE DII COE VERSION 2.0
(Windows NT)

28 June 1996

Prepared for:
Defense Information Systems Agency

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Introduction

The following conventions have been used in this document:

[HELVETICA FONT]	Used to indicate keys to be pressed. For example, press [RETURN].
Courier Font	Used to indicate entries to be typed at the keyboard, UNIX commands, titles of windows and dialog boxes, and screen text. For example, type the following command at the prompt: <pre>setenv boot-device diskN</pre>
“Quotation Marks”	Used to indicate prompts and messages that appear on the screen and to indicate descriptive titles of screens and dialog boxes that either (1) do not have a title or (2) do not have a descriptive title. For example, the “Select Operating System” screen appears.
Italics	Used for emphasis.

System Installation Overview

Installing the Windows NT Operating System

Refer to the DII COE Kernel Installation Guide Version 2.0.0.1 DRAFT (Windows NT) for information about installing the Windows NT Operating System.

Installing the DII COE Windows NT Kernel

Refer to the DII COE Kernel Installation Guide Version 2.0.0.1 DRAFT (Windows NT) for information about installing the DII COE Windows NT kernel.

Installing the DII COE Windows NT Developer’s Toolkit

Refer to the DII COE Kernel Installation Guide Version 2.0.0.1 DRAFT (Windows NT) for information about installing the DII COE Windows NT developer’s toolkit.

Installing Segments

Refer to the DII COE Kernel Installation Guide Version 2.0.0.1 DRAFT (Windows NT) for information about using the COEInstaller tool to install segments.

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Part 1: Kernel Installation Guide Version 2.0.0.1 (Windows NT)

Section 1. Introduction

The Setup program for the Microsoft Windows NT Operating System Version 3.51 prepares Windows NT to run on your computer. The Setup program copies the appropriate files onto your computer's hard disk and then configures the software you need to run applications and to use the network.

The Windows NT Setup program guides you through the installation steps and provides system Help for any step where you need assistance.

Before you run the Setup program, you should note the system and media requirements listed below and answer the following questions about the installation.

1.1 System Requirements

This section describes DII COE hardware components and operating system components for Windows NT Operating System 3.51.

1.1.1 Hardware Components

- 80486 or higher with at least 16MB of RAM (12MB minimum is required for Windows NT)
- 3.5-inch high density floppy drive (required to install the software)
- 125MB minimum free hard disk space to provide sufficient swap space and room for temporary files.
 - NT Operating System 75MB
 - COE Runtime 10MB
 - Swap space and temporary files 40MB (recommended)
 - Tools 2MB (developers only).
- 500MB free disk space recommended for segments and data
- Monitor
- Video display board supporting at least VGA 640 x 480 mode operation (SVGA 800 x 600 recommended)
- Keyboard
- Pointing device
- Two serial ports
- CD-ROM drive.

1.1.2 Operating System Components

- Windows NT 3.51 Operating System CD-ROM
- Windows NT 3.51 Service Pack 3 or later.

1.2 Installation Preparation

Answer the following questions before installing Windows NT Operating System 3.51:

Question: What kind of display adapter card is installed in your computer?

—How much video RAM is installed?

- What is your monitor's refresh rate?
- What resolution do you plan to use on your display (e.g., 1024 x 768 or 800 x 600)?
- What color depth do you plan to use on your display (e.g., 256 colors or 65536 colors)?

Question: Does the computer have a Network Adapter Card?

If so,

- What type of network adapter does your computer have?
- What is the card's interrupt request number (IRQ)?
- What is the base input/output (I/O) address?

Question: Will the computer use a network?

If so,

- What is the name of the computer?
- What is the name of the workgroup or the domain that the computer will join?
- Is there a DHCP server?
- Is the computer using DNS?

Question: Is a printer connected directly to the computer?

If so,

- What is the name of the printer?
- What is the printer model?
- What port does the printer use?

1.3 Additional Sources of Information

Reference the following documents for more information about installing the Windows NT Operating System and using the COEInstaller tool:

Microsoft Windows NT Workstation Installation Guide, Microsoft Corporation, 1994

DII COE System Administrator's Guide (Windows NT), DII.2.0.0.1.DRAFT.NT.SAG-1, Inter-National Research Institute, June 14, 1996.

Section 2. Installing the Windows NT Operating System

To begin the installation of Windows NT, you must first complete the MS-DOS-based portion of the Setup program. Once it is complete, the “Restart Computer and Continue Windows NT Setup” window appears. Reboot the computer by pressing [RETURN]. After the computer restarts, the Windows NT Setup program continues.

Follow the steps below to install the Windows NT Operating System Version 3.51.

NOTE: Many windows and dialog boxes appear during the installation of Windows NT Version 3.51. Windows and dialog boxes that have descriptive titles are cited exactly as they appear on the screen. Some windows and dialog boxes, however, do not have titles or do not have descriptive titles. Therefore, descriptive titles of these windows and dialog boxes appear in quotation marks when they are referenced in the steps below, which indicates that these titles do not actually appear in the windows or boxes.

NOTE: The [RETURN] key can be pressed in place of clicking on the Continue or the OK button.

- STEP 1. **Set up Windows NT.** From the Welcome to Setup window, press [RETURN] to set up Windows NT to run on your computer.
- STEP 2. **Select Express Setup.** The “Custom or Express Setup” window shows two setup methods for Windows NT: Express Setup and Custom Setup. Express Setup installs all optional Windows NT Workstation components. It uses default settings to (1) automatically configure your hardware settings and other components, (2) help you set up your printer if you have one connected to your system, (3) help you to select and configure appropriate settings for your network adapter card and allow you to join a workgroup or a Windows NT server domain, and (4) automatically set up applications for use with Windows NT.

NOTE: It is recommended that you select the Express Setup option.

To select the Express Setup option, press [RETURN].

- STEP 3. **Install and configure mass storage devices.** The “Mass Storage Device” window shows a list of storage devices. Windows NT automatically checks for all mass storage devices it can find (e.g., SCSI adapter cards, proprietary interfaces for CD-ROM drives, and special disk controllers) and lists those devices. If the list of storage devices is correct, press [RETURN] to allow Setup to install and configure the devices. If the list of storage devices does not match the storage devices that are actually in the computer, then press S to specify the correct information.

NOTE: It is recommended that you allow Windows NT to detect mass storage devices.

- STEP 4. **Upgrade Windows NT or perform a new installation.** The “Choose NT Upgrade or New Installation” window appears **only** if Windows NT has already been installed on the computer. If Windows NT has not been installed on the computer already, proceed to STEP 5. To upgrade Windows NT in the directory listed, press [RETURN]. To cancel the upgrade and install a new copy of Windows NT, press N.

- STEP 5. Create a disk partition for Windows NT.** The “Disk Partition” window allows you to choose a disk partition for the Windows NT workstation system files.

The list shows existing partitions and spaces available for creating new partitions. A partition must be formatted with either the NTFS or FAT file system to be used for the Windows NT installation.

To delete a partition, highlight its name and then press **D** to delete the highlighted partition. By deleting a partition, you are also enabling yourself to select an area for clean partition. The “Delete Partition” window appears. Select **L** to confirm deletion of the partition. The “Disk Partition” window reappears.

To create a new partition, highlight the unpartitioned space and press **C** to create a partition in that space. The “Create Partition” window appears. Press **[RETURN]** to partition the whole drive, or enter a partition size and then press **[RETURN]**.

NOTE: It is recommended that you partition the whole drive when asked to Create New Partition.

If you choose not to partition the whole drive, the minimum size of the partition is 125MB.

After the new partition is created, select **New (Unformatted)** and press **[RETURN]** to install Windows NT in this partition.

- STEP 6. Choose a file system for Windows NT.** The “Choose File System” window allows you to choose a file system for the Windows NT workstation system files.

NOTE: It is recommended that you format the partition using the NTFS file system. The DII COE can only be installed on an NTFS file system.

Highlight the appropriate file system for the partition and press **[RETURN]** to format the partition.

- STEP 7. Choose a directory on which to install Windows NT.** The “Installation Directory” window allows you to choose the directory on your hard disk where the Windows NT workstation system files will be installed.

NOTE: It is recommended that you install the Windows NT system files in the default directory \WINNT35.

Select the directory and press **[RETURN]**. The Setup program examines your disks and then copies files to your hard disk.

- STEP 8. Restart the computer.** Press **[RETURN]** to restart the computer in order to continue with the Setup program.

NOTE: The Setup program copies several basic files, and the Windows NT Workstation logo appears for the first time. All subsequent requests for information appear in Windows NT dialog boxes.

- STEP 9. **Enter a user name and a company name.** The “User Name and Company Name” dialog box allows you to enter a user name and a company name. Windows NT uses the user name and company name to identify you and various operations that you perform. Enter a user name and a company name in the appropriate fields and press [RETURN].
- STEP 10. **Confirm the user name and company name.** The “Verify User Name and Company Name” dialog box allows you to verify the user name and the company name. Press [RETURN] to confirm the information.
- STEP 11. **Enter a computer name.** The “Computer Name” dialog box allows you to enter a computer name. Windows NT needs a computer name to identify your computer on the network. You can create a computer name or ask your system administrator if the computer has a specific name assigned. The computer name must be a unique name of 15 characters or less. Enter a computer name in the `Computer Name` field and press [RETURN].

NOTE: In order to avoid confusion, your computer name should be the same as your Transmission Control Protocol/Internet Protocol (TCP/IP) host name. If you are unsure of your TCP/IP host name, contact your system administrator.

- STEP 12. **Confirm the computer name.** The “Verify Computer Name” dialog box allows you to verify the computer name. Press [RETURN] to confirm the information.
- STEP 13. **Select a local language setting.** The `Language (Locale)` dialog box allows you to provide the local language setting, which affects the format Windows NT uses to display currency and time values. Select a local language setting and press [RETURN].
- STEP 14. **Set up a local printer (optional).** The `Set up Local Printer` dialog box allows you to set up your local printer so you can print documents from Windows NT. You can create a name for your printer, select its type, and select the port to which the computer is connected.

Enter the local printer name in the `Printer Name` field, the printer model in the `Model` field, and the printer port in the `Print to` field and press [RETURN]. Select the `Cancel` button if no printer is directly connected to the computer.

NOTE: You can use `Print Manager` to set up printers after Windows NT has been installed. Please refer to a Microsoft Windows NT system administration guide for further information about setting up printers.

- STEP 15. **Install a network adapter card.** The `Network Adapter Card Detection` dialog box shows the network adapter card detected by Windows NT if Windows NT can detect a card. Windows NT automatically checks for a network adapter card in your computer and installs the first one it recognizes. If this dialog box lists a network adapter card, press [RETURN].

The Setup program, however, cannot detect some types of network cards. If Setup cannot recognize your adapter card, it asks if you want to install Microsoft Remote Access Service. If

you do not choose this option, Setup displays the Add Network Adapter dialog box and asks you to select the name of the card you want to install.

Select the card and press [RETURN] or select No Network if the computer is not connected to a network. Reference the *DII COE System Administrator's Guide (Windows NT)* for further information about installing a network adapter card.

- STEP 16. **Enter the path for the distribution files.** The “Distribution Files” window may appear, depending on the information the Setup program needs to continue the installation. Provide the full path of the Windows NT distribution files if asked and then press [RETURN].

NOTE: The distribution file path is usually x:\i386, where x: is your CD-ROM drive.

- STEP 17. **Install network protocol(s).** The “Network Protocol” dialog box allows you to select the network protocols that you want to install. The primary protocols you can choose are NWLink IPX/SPX Compatible Transport, TCP/IP Transport, and NetBEUI Transport. We recommend selecting TCP/IP Transport, as a minimum. TCP/IP protocol is a suite of networking protocols that provide communication across interconnected networks. Select one of the other protocols only if it is needed. Highlight the appropriate protocol(s) and then press [RETURN].

- STEP 18. **Configure the selected network protocol(s).** The “Network Protocol Configuration” dialog box allows you to provide the IP Address, Subnet Mask, and Default Gateway only if you have a DHCP server. Enter the appropriate information then press [RETURN].

NOTE: After you enter choices for the network configuration settings, the Setup program copies files and tries to start the network.

- STEP 19. **Specify whether the computer is a member of a workgroup or a domain.** The Domain/Workgroup Settings dialog box allows you to specify whether the computer is a member of a workgroup or a member of a Windows NT Server domain. If you specify Domain, you have the option to create a computer account on the domain for this computer. You must specify a user account with the ability to add workstations to the domain.

To join a workgroup, enter its name and press [RETURN]. To join a domain that already has an account for this computer, enter its name and press [RETURN]. If a computer account must be added for this computer, select the Domain option and then toggle on the Create Computer Account in Domain box. Enter the name and password of an account and press [RETURN].

NOTE: Passwords are case sensitive. If you have difficulty entering your password, verify that the [CAPS LOCK] key is turned off.

- STEP 20. **Enter an Administrator account password.** The Administrator Account Setup dialog box allows you to set a password to allow maximum access to your computer's resources. Enter the administrator account password in the Password field, confirm the password in the Confirm Password field, and press [RETURN]. The password can be up to 14 characters and cannot have any spaces.

- STEP 21. **Set up a local user account (optional).** The `Local Account Setup` dialog box allows you to set a unique name for setting up a local user account if your computer is not a member of a Windows NT Server domain. This information is used for identification every time you log on to Windows NT.

To set up a local account, enter the local username and a password in the appropriate fields. Then confirm the password in the `Confirm Password` field and press [RETURN]. The username must be a unique name of 20 or fewer characters that does not include spaces; the password must be a unique name of 14 or fewer characters that does not include spaces.

- STEP 22. **Provide application names for existing programs.** The Windows NT installer searches your hard drive for existing applications. The system may prompt you to identify certain applications on your hard drive. The “`Application Name`” dialog box allows you to provide the application name for these program files.

NOTE: It is recommended that you select the default, <code>MS-DOS Editor</code>, for each <code>EDIT.COM</code> file that appears.

Select the appropriate application name and press [RETURN].

- STEP 23. **Enter the local time.** The `Date/Time` dialog box allows you to make choices about time settings and to specify the local time. Enter the date, the time, and the time zone in the appropriate fields and then press [RETURN].

- STEP 24. **Configure your video display.** The `Detected Display` dialog box allows you to configure your video display. The system lists the machine’s video adapter and allows you to select sizes and colors for your display. Press [RETURN] to acknowledge the information in the dialog box. The `Display Settings` dialog box appears.

NOTE: It is recommended that you wait until the whole installation is finished before making changes to the display settings. Use the <code>Display</code> option in the <code>Control Panel</code> to make changes to your video configuration after running <code>Setup</code>.
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Click on the `Cancel` button to exit the `Display Settings` dialog box.

- STEP 25. **Create an emergency repair diskette.** The “`Emergency Repair Disk`” dialog box allows you to create an emergency repair diskette, which can be used to restore your system to its initial setup state if files become corrupt.

NOTE: It is recommended that you create an emergency repair diskette. This repair diskette must be updated each time you change your system configuration (e.g., network card video display).
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To create an emergency repair diskette, press [RETURN]. The “`Create Emergency Repair Disk`” dialog box appears. Label a blank, high-density floppy diskette “`Emergency Repair Disk`” and insert it into drive `A:`. Press [RETURN] when the diskette is in the drive. The `Setup` program then creates the emergency repair diskette.

NOTE: After the Setup program create the emergency repair diskette, the Windows NT 3.51 installation is complete.

- STEP 26. **Reboot the system to run Windows NT.** Remove the diskette from the floppy disk drive and select `Restart Computer` or press [RETURN] to run the installed system. Press [RETURN] when the “Select Operating System” window appears.
- STEP 27. **Log on and enter your password.** Log on to the workstation when the `Welcome` logon message appears by pressing [CTRL+ALT+DEL]. Type your password in the `Welcome` dialog box and then press [RETURN]. You are ready to run Windows NT.
- STEP 28. **Install Windows NT Service Pack 3.** Windows NT Service Pack 3 is required to install the Distributed Computing Environment (DCE), as well as many other software packages. Service Pack 3 fixes many serious problems in the Windows NT Operating System and should be installed on all machines.

Service Pack 3 is not installed during the normal Windows NT 3.51 installation. To install Service Pack 3, run `UPDATE.EXE`. The location of this file may vary by distribution media. A common location is `\SVCPACK\3.351\I386\UPDATE.EXE`. See your system administrator to determine the location of this file.

NOTE: Windows NT Service Pack 3 is distributed in several formats. The instructions above are provided for CD-ROM installation only.

Section 3. Installing the DII COE Kernel for Windows NT

Follow the steps below to install the DII COE kernel for Windows NT operating system Version 3.51.

- STEP 1. **Run the installation executable file.** From Program Manager select File, select Run, and then enter A:\SETUP.EXE in the command line. Place the first DII COE Installation diskette in drive A: and press [RETURN]. The Welcome window appears, as shown in Figure 1 below.

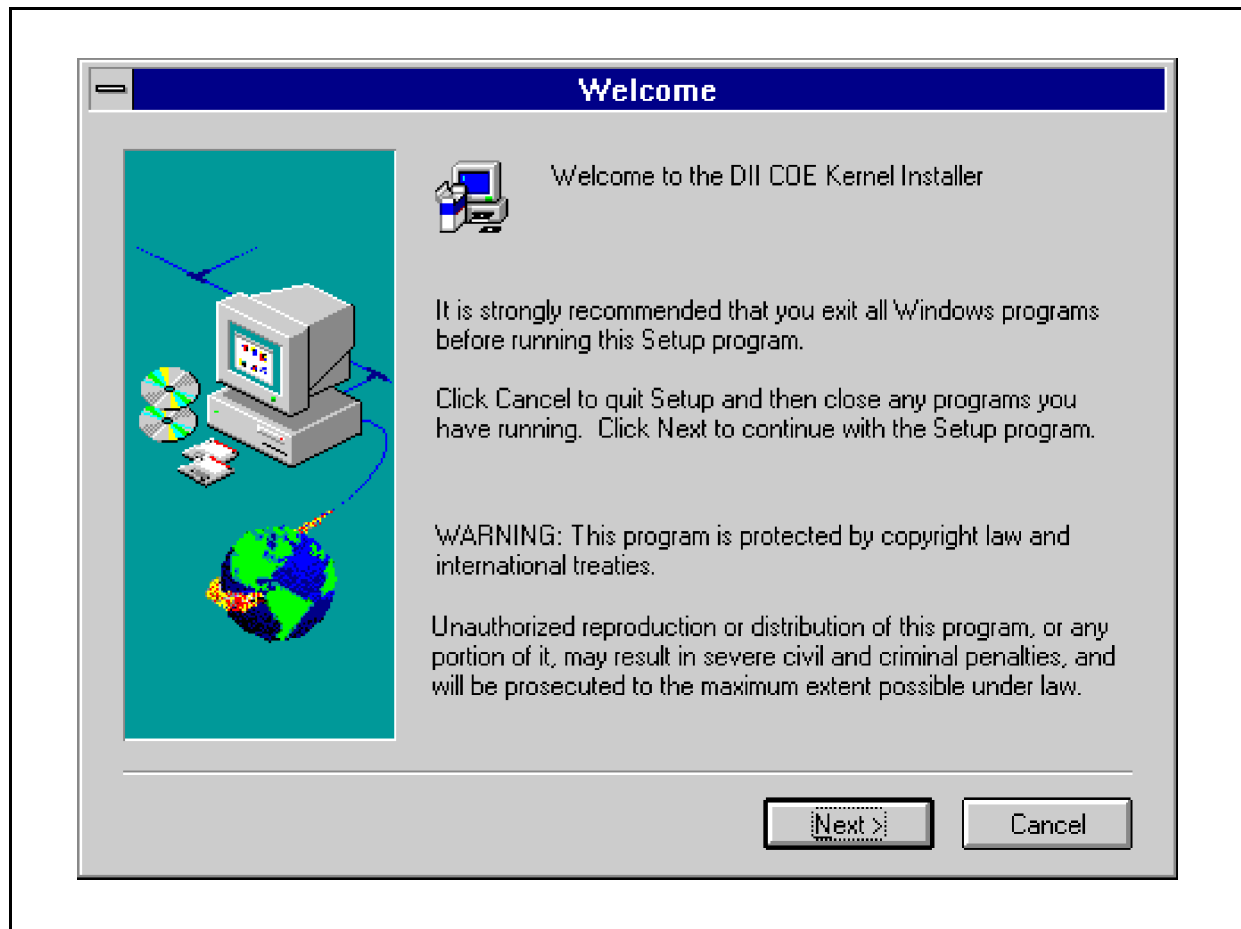


Figure 1-1. Welcome Window

- STEP 2. **Select the destination drive.** Select the `Next` button. The `Select the DII Drive` window appears. Select the appropriate destination drive for the DII COE (i.e., `Drive C:` or `Drive D:`) and then select the `Next` button. A status bar shows the progress of the installation. Approximately 9 percent of the COE kernel is installed when the first diskette has finished.

NOTE: The destination drive must be an NTFS formatted disk.
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- STEP 3. **Insert the second installation diskette.** The `Setup Needs the Next Disk` window appears. Insert the second DII COE Installation diskette and click `OK`. The COE kernel installation is approximately 30 percent complete when the second diskette has finished.
- STEP 4. **Insert the third installation diskette.** The `Setup Needs the Next Disk` window appears. Insert the third DII COE Installation diskette and click `OK`. The COE kernel installation is approximately 51 percent complete when the third diskette has finished.
- STEP 5. **Insert the fourth installation diskette.** The `Setup Needs the Next Disk` window appears. Insert the fourth DII COE Installation diskette and click `OK`. The COE kernel installation is approximately 73 percent complete when the fourth diskette has finished.
- STEP 6. **Insert the fifth installation diskette.** The `Setup Needs the Next Disk` window appears. Insert the fifth DII COE Installation diskette and click `OK`. The COE kernel installation is complete when the fifth diskette has finished.
- STEP 7. **Begin the DCE installation process.** The `DCE Runtime Services Kit` window appears. This program installs the Distributed Computing Environment (DCE) Runtime Services Kit. Press `Continue`.
- STEP 8. **Update current files with newer versions.** The `Set Warning` window appears. This window lists files in use on the system. Click `Ignore` to rename the current files if newer versions need to be installed.
- STEP 9. **Copy DCE files into the appropriate directory.** The `DCE Destination Path` window appears. This program copies DCE files into the directory tree specified on the window. The default directory is `\OPT`. We recommend that you change this directory to `\DII\OPT` on the same drive the DII kernel is loaded. Press `Continue`.
- STEP 10. **Place the Program Group in the common area or the private area.** The `Program Group Options` window appears. This window allows you to choose to place the Program Group in the common area or the private area. Placing the Program Group in the Common area will make the DCE Program Group available to all users of the system. Select either the `Create Program Group in Common Area` option or the `Create Program Group in Private Area` option and then press `Continue`.

STEP 11. **Enable the RPC transport protocol restriction.** The RPC Transport Protocol Restriction window appears. Some non-Digital implementations cannot be configured into cells where DCE servers are running on Windows NT unless RPC on Windows NT is restricted to use only TCP/IP and User Datagram Protocol/Internet Protocol (UDP/IP). Press **Yes** to enable the transport restriction.

STEP 12. **Read DCE configuration information and decline to shut down the system.** The DCE Runtime Services Kit window appears. This window displays the following message:

The DCE for Windows NT version 1.1A Runtime Services Kit has been successfully installed. Before DCE can run, it must be configured for your local cell environment. Select the DCE setup icon in the DCE for Windows NT program group to accomplish this. Setup has made changes to your system during the installation which makes it necessary to reboot before running DCE setup to configure DCE services. Setup can Shutdown the system for you at this time. Do you want to shut the system down now?

After reading the message, select **No**.

STEP 13. **Exit the installation program.** The DII Kernel Installer window appears. This window indicates that the DII COE kernel has been installed. Select **Finish** to exit the program.

STEP 14. **Reboot the workstation upon completion of the DII kernel installation.** This can be done by closing the Program Manager and selecting **Shutdown and Restart** from the dialog box that appears.

Attachment 1. DII COE Kernel 2.0.0.0 Known Problems and Errors (Windows NT)

INRI Number	CSC	Description	Create-Date
RTO00000696	OS-NT	DCE Setup files not being removed	04/24/96 13:23:14

Total number of STRs is 1